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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,134	01/16/2004	Syuji Nakai	011900-327	5027
21839	7590	05/05/2006		
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			EXAMINER MCNELIS, KATHLEEN A	
			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/758,134

Applicant(s)

NAKAI ET AL.

Examiner

Kathleen A. McNelis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 21 Feb 06.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **Claims Status**

Claims 27-34 are pending wherein claims 27 and 28 are amended.

### **Status of Previous Rejection**

The previous rejection of claim 27 under 35 U.S.C. 102(b) is withdrawn in view of applicants' amendments to the claims.

The previous rejections of claims 28 to 34 under 35 U.S.C. 103(a) are withdrawn in view of applicants' amendments to the claims.

The previous rejections of claims 29-30 under 35 U.S.C. 112 are withdrawn in view of applicants' amendments to the claims.

### **DETAILED ACTION**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 406287640 (JP '640) in view of the ASM Metals Handbook or Japanese Patent 2000-054031 (JP '031).

The English abstract of JP '640 teaches a method of making ultra-low carbon sheet steel comprising the steps of vacuum decarburization, deoxidization with Al followed by continuous casting and hot rolling as discussed in paragraph 3 of the October 24, 2005 Office Action.

Further, the English abstract of JP '640 teaches coiling of the hot rolled plate as in the amendment to claim 27.

JP '640 does not teach that titanium is included in the steel at a concentration of between 0.002 and 0.10 % as in the amendment to claim 27.

The ASM Metals Handbook teaches that titanium is added to carbon and alloy steels primarily as a deoxidizer and helps to limit grain growth (p. 221). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use

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titanium as taught by the ASM Metals Handbook in the steel of JP '640 to deoxidize the steel and limit grain growth as taught by the ASM Metals Handbook.

Alternatively, the machine translation of JP '031 teaches that Ti is added at a composition of between 0.01 and 0.4 wt% to react with carbon, nitrogen and sulfur in the steel and improve workability (§ 0020). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add titanium as taught by JP '031 to the steel of JP '640 to react with C, N and S and improve the workability of the steel as taught by JP '031. The range of between 0.01 and 0.4 wt% overlaps with the claimed range of 0.002 to 0.10%. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add between 0.01 and 0.10 wt% Ti to the steel since JP '031 teaches that any addition between 0.01 and 0.4 wt% improves workability.

Claims 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 406287640 (JP '640) in view of the ASM Metals Handbook or Japanese Patent 2000-054031 (JP '031) as applied to claim 27 and further in view of Olsson (U.S. Pat. No. 4,113,166), Taylor (U.S. Pat. No. 3,512,574) and Japanese patent 2672889 (JP '889).

JP '640 in view of the ASM Metals Handbook or JP '031 discloses a steel alloy with constituents whose weight % overlap those recited by the claims as discussed above regarding claim 1 and in paragraph 8 of the October 24, 2005 Office Action.

Olsson, Taylor and JP '889 are applied as discussed in paragraphs 6-10 and 16 of the October 24, 2005 Office Action.

***Response to Arguments***

Applicant's arguments with respect to claims 27-34 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571-272-3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700